In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-2. (Cancelled, without prejudice or disclaimer)

3. (Currently amended) [[~~The device of claim 2,~~]] A light detection device, comprising:

a light source configured to produce light of a first wavelength;

a wavelength converter configured to receive the light of the first wavelength and to convert that light into light of a second wavelength, where the second wavelength is different than the first wavelength;

a system for directing the light of the second wavelength to an examination area, wherein a sample holder comprising a plurality of sample sites is positioned in the examination area; and

a detector configured to receive luminescence light from samples positioned in the plurality of sample sites,

wherein the system for directing light includes:

an optical pattern generator configured to convert the light of the second wavelength into light having a preselected intensity pattern, and

an optical relay structure configured to project the light having the preselected pattern onto the examination area, where the projected pattern substantially conforms to the arrangement of sample sites in at least a portion of the sample holder,

where the light source is a pulsed laser,

where the pulsed laser is triggered by the detector.

4-8. (Cancelled, without prejudice or disclaimer)

9. (Currently amended) [[~~The device of claim 8,~~]] A light detection device, comprising:

a light source configured to produce light of a first wavelength;

a wavelength converter configured to receive the light of the first wavelength and to convert that light into light of a second wavelength, where the second wavelength is different than the first wavelength;

a system for directing the light of the second wavelength to an examination area, wherein a sample holder comprising a plurality of sample sites is positioned in the examination area; and

a detector configured to receive luminescence light from samples positioned in the plurality of sample sites,

wherein the system for directing light includes:

an optical pattern generator configured to convert the light of the second wavelength into light having a preselected intensity pattern, and

an optical relay structure configured to project the light having the preselected pattern onto the examination area, where the projected pattern substantially conforms to the arrangement of sample sites in at least a portion of the sample holder,

where the wavelength converter converts the light of the first wavelength into the light of the second wavelength and light of a third wavelength,

where the energy associated with a photon of the light of the first, wavelength substantially equals the sum of the energies associated with a photon of light of the second wavelength and a photon of light of the third wavelength.

10-13. (Cancelled, without prejudice or disclaimer)

14. (Currently amended) [[~~The device of claim 13,~~]] A light detection device, comprising:

a light source configured to produce light of a first wavelength;

a wavelength converter configured to receive the light of the first wavelength and to convert that light into light of a second wavelength, where the second wavelength is different than the first wavelength;

a system for directing the light of the second wavelength to an examination area, wherein a sample holder comprising a plurality of sample sites is positioned in the examination area; and

a detector configured to receive luminescence light from samples positioned in the plurality of sample sites,

wherein the system for directing light includes:

an optical pattern generator configured to convert the light of the second wavelength into light having a preselected intensity pattern, and

an optical relay structure configured to project the light having the preselected pattern onto the examination area, where the projected pattern substantially conforms to the arrangement of sample sites in at least a portion of the sample holder,

the device further comprising a wavelength selector configured to adjust the wavelength converter to select the second wavelength,

where the wavelength selector operates by changing the relative angle between the light of the first wavelength and a portion of the wavelength converter.

15. (Original) The device of claim 14, where the wavelength selector automatically changes the relative angle between the

light of the first wavelength and a portion of the wavelength converter.

16. (Original) The device of claim 14, where the wavelength selector changes the relative angle between the light of the first wavelength and a portion of the wavelength converter in a continuous fashion.

17-26. (Cancelled, without prejudice or disclaimer)

27. (Currently amended) [[~~The device of claim 26,~~]] A light detection device, comprising:

a light source configured to produce light of a first wavelength;

a wavelength converter configured to receive the light of the first wavelength and to convert that light into light of a second wavelength, where the second wavelength is different than the first wavelength;

a system for directing the light of the second wavelength to an examination area, wherein a sample holder comprising a plurality of sample sites is positioned in the examination area; and

a detector configured to receive luminescence light from samples positioned in the plurality of sample sites,

wherein the system for directing light includes:

an optical pattern generator configured to convert the light of the second wavelength into light having a preselected intensity pattern, and

an optical relay structure configured to project the light having the preselected pattern onto the examination area, where the projected pattern substantially conforms to the arrangement of sample sites in at least a portion of the sample holder,

the device further comprising a fluid delivery system that includes a dispensing device configured to deliver a fluid material to the sample,

where the detector is configured to coordinate the reception of luminescence light from the sample with the delivery of the fluid material to the sample.

28-30. (Cancelled, without prejudice or disclaimer)

31. (Currently amended) [[~~The method of claim 30~~]] A method of detecting light transmitted from a sample, comprising:

outputting light from a light source, the light having a first wavelength;

selectively converting the light having the first wavelength to light having a second wavelength, where the second wavelength is different than the first wavelength;

directing the light having the second wavelength onto a plurality of samples positioned in a sample holder; and

measuring light transmitted from the samples induced by the light having the second wavelength,

wherein the step of directing the light having the second wavelength onto the samples comprises converting the light into light having a preselected intensity pattern and projecting the light having the preselected pattern onto the sample holder, where the projected pattern substantially conforms to the arrangement of samples in at least a portion of the sample holder,

where the step of selectively converting includes the step of converting the light having the first wavelength to light having the second wavelength and light having a third wavelength,

further comprising the step of discarding the light of the third wavelength.

32-39. (Cancelled, without prejudice or disclaimer)

40. (Currently amended) [[~~The method of claim 29~~]] A method of detecting light transmitted from a sample, comprising:

outputting light from a light source, the light having a first wavelength;

selectively converting the light having the first wavelength to light having a second wavelength, where the second wavelength is different than the first wavelength;

directing the light having the second wavelength onto a plurality of samples positioned in a sample holder; and

measuring light transmitted from the samples induced by the light having the second wavelength,

wherein the step of directing the light having the second wavelength onto the samples comprises converting the light into light having a preselected intensity pattern and projecting the light having the preselected pattern onto the sample holder, where the projected pattern substantially conforms to the arrangement of samples in at least a portion of the sample holder,

further comprising the step of exposing the sample to an electrical potential selected to stimulate one or more sample components.

41-66. (Cancelled, without prejudice or disclaimer)

67. (Currently amended) [[~~The method of claim 62~~]] A method of detecting luminescence from a luminescent sample, comprising:

outputting light from a light source, the light being capable of inducing luminescence in the sample;

selectively converting the light into light having a preselected intensity pattern;

directing the light having the preselected intensity pattern onto a sample holder so that the light is incident at least substantially only on sample sites in the sample holder; and

measuring luminescence light transmitted from at least one of the sample sites induced by the light having the preselected intensity pattern,

said method further comprising:

exposing the sample to a reagent or an environmental condition;

incubating the sample for a time sufficient for the reagent or environmental condition to detectably effect the sample;

directing the light having the preselected intensity pattern onto the sample holder;

measuring the luminescence light transmitted from at least one of the sample sites induced by the light having the preselected intensity pattern; and

comparing the luminescence light transmitted from at least one of the sample sites with the luminescence light transmitted from the same sample site before the step of exposing the sample to the reagent or the environmental condition.

68. (Original) The method of claim 67, where the luminescence light transmitted from each of the sample sites is compared with the luminescence light transmitted from that sample site before the step of exposing the sample to the reagent or the environmental condition.

69. (Previously presented) A light detection device, comprising:

a pulsed laser configured to produce light of a first wavelength;

a wavelength converter configured to receive the light of the first wavelength and to convert that light into light of a second wavelength, where the second wavelength is different than the first wavelength;

a system for directing the light of wavelength to an examination area; and

a detector configured to receive luminescence light from a sample positioned in the examination area, wherein the pulsed laser is triggered by the detector.

70. (Previously presented) A light detection device, comprising:

a light source configured to produce light of a first wavelength;

a wavelength converter configured to receive the light of the first wavelength and to convert that light into light of a second wavelength, where the second wavelength is different than the first wavelength;

a system for directing the light of the second wavelength to an examination area; and

a detector configured to receive luminescence light from a sample positioned in the examination area,

wherein the wavelength converter converts the light of the first wavelength into the light of the second wavelength and light of a third wavelength, and wherein the energy associated with a photon of the light of the first wavelength substantially equals the sum of the energies associated with a photon of light of the second wavelength and a photon of light of the third wavelength.

71. (Previously presented) A light detection device, comprising:

a light source configured to produce light of a first wavelength;

a wavelength converter configured to receive the light of the first wavelength and to convert that light into light of a second wavelength, where the second wavelength is different than the first wavelength;

a wavelength selector configured to adjust the wavelength converter to select the second wavelength;

a system for directing the light of the second wavelength to an examination area; and

a detector configured to receive luminescence light from a sample positioned in the examination area

wherein the wavelength selector operates by changing the relative angle between the light of the first wavelength and a portion of the wavelength converter.

72. (Previously presented) The device of claim 71, where the wavelength selector automatically changes the relative angle between the light of the first wavelength and a portion of the wavelength converter.

73. (Previously presented) The device of claim 71, where the wavelength selector changes the relative angle between the light of the first wavelength and a portion of the wavelength converter in a continuous fashion.

74. (Previously presented) A method of detecting light transmitted from a sample, comprising:

outputting light from a light source, the light having a first wavelength;

selectively converting the light having the first wavelength to light having a second-wavelength, where the second wavelength is different than the first wavelength;

directing the light having the second wavelength onto the sample;

exposing the sample to an electrical potential selected to stimulate one or more sample components; and

measuring light transmitted from the sample induced by the light having the second wavelength.

75. (Previously presented) A method of detecting luminescence from a luminescent sample, comprising:

outputting light from a light source, the light being capable of inducing luminescence in the sample;

selectively converting the light into light having a preselected intensity pattern;

exposing a sample to a reagent or an environmental condition;

incubating the sample for a time sufficient for the reagent or environmental condition to detectably effect the sample;

directing the light having the preselected intensity pattern onto a sample holder so that the light is incident at least substantially only on sample sites in the sample holder;

measuring luminescence light transmitted from at least one of the sample sites induced by the light having the preselected intensity pattern; and

comparing the luminescence light transmitted from at least one of the sample sites with the luminescence light transmitted from the same sample site before the step of exposing the sample to the reagent or the environmental condition.

76. (Previously presented) The method of claim 74, where the luminescence light transmitted from each of the sample sites is compared with the luminescence light transmitted from that sample site before the step of exposing the sample to the reagent or the environmental condition.